

REMARKS

By this Amendment, claim 1 is amended to further clarify the recited subject matter. Claims 1-10 are pending.

The Office Action rejected claims 1-7, 9, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Aurich et al. (U.S. Patent No. 6,991,301; hereafter “Aurich”) in view of Mayer et al. (U.S. Patent No. 6,945,611; hereafter “Mayer”) and Balch et al. (U.S. Patent Application Publication No. 2001/0035049; hereafter “Balch”). Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Aurich in view of Mayer, Balch, and Hollandsworth et al. (U.S. Patent Application Publication No. 2005/0099061; hereafter “Hollandsworth”). Applicant traverses the rejections because the cited prior art references, analyzed individually or in combination, fail to teach or suggest all the features of the claimed invention. For example, the cited prior art teachings fails to provide the claimed brake system wherein “the data processor is provided with a wheel slide control unit, which data processor and wheel slide control unit cooperate to function as a bogie-specific brake control unit, which, in use, controls the brake pressure independently of the main brake control unit, wherein the wheel slide control unit is connected to the databus so that the wheel slide control unit communicates with other bogie-specific brake control units associated with other bogies on the vehicle,” as recited in independent claim 1 and its dependent claims 2-10.

Aurich relates merely to a localized control system, whereas the claimed invention pertains to the concept of "distributed control. More specifically, Aurich expressly discloses that a central control unit receives data from a plurality of local units and sends brake application demands to them. Aurich also utilizes what is disclosed as an “actual deceleration;” this would suggest to one of ordinary skill in the art that this value is calculated by the central unit.

Aurich also discloses that configuration data (i.e., train formation, mass, length, etc.) as well as operating data (i.e., rotational speed, slip, axle load, etc.) are fed to the Localized Control Units (LCUs) by the Central Control Unit (CCU); nevertheless, Aurich fails to disclose where or how this data is used. Nevertheless, one of ordinary skill in the art would have recognized that the LCUs carry out their own wheel slippage control actions; however, it is not clear what the source of the control data for those actions is.

Assuming for argument's sake that the control data comes from the LCUs, the CCU or redundant control units (referred to in paragraphs 21 and 93 of the published Aurich application), this would mean that the CCU would calculate a reduced demanded pressure in response to detection of slip rather than just allowing the LCUs to modulate the pressure themselves. As a result, Aurich simply discloses a system in which speed information gathered from the LCUs is shared with the CCU but there is no communication among the LCUs themselves. Thus, while Aurich teaches LCUs that can act autonomously, there is no mention of the LCUs communicating with other units on a per vehicle basis.

As a result, Aurich fails to provide the advantage enabled by the claimed invention wherein communication between the wheel slide control units improves the estimation of the reference speed and hence improves the wheel slide control while reducing air usage. As a result, Aurich fails to provide the claimed improvement.

Balch fails to remedy these deficiencies of Aurich because Balch merely describes a dynamic braking system wherein a propulsion system 10 includes a variable speed prime mover 11 (e.g., a diesel engine) mechanically coupled to a rotor of a dynamo electric machine 12 comprising a 3-phase alternating current (AC), synchronous generator or alternator. (Balch at col. 2, lines 10-15.). It should be noted that there is no discussion of friction braking in Balch. Accordingly, the Applicant respectfully submits that Balch does not discuss, among other things, a system where a data processor is provided with local intelligence so as to permit individual control of brake pressure on axles or bogies or cars.

Similarly, Mayer and Hollandsworth fail to remedy these deficiencies of Aurich because Mayer and Hollandsworth are directed specifically to features of the dependent claims. Thus, the combined teachings of Aurich, Balch, Mayer and Hollandsworth, regardless of how combined, fail to provide the claimed invention.

Each of the rejections having been addressed, Applicant respectfully requests that the Examiner withdraw the rejections of the claims and pass this application quickly to issuance. In view of the above, it is submitted that all of the pending claims are in condition for allowance and such action is respectfully requested. If there is any issue remaining to be resolved, the examiner is invited to telephone the undersigned at (202) 371-6371 so that resolution can be promptly effected.

It is requested that, if necessary to effect a timely response, this paper be considered a Petition for an Extension of Time sufficient to effect a timely response with the fee for such extensions and shortages in other fees, being charged, or any overpayment in fees being credited, to the Account of Barnes & Thornburg LLP, Deposit Account No. **02-1010** (648-44539).

Respectfully submitted,
BARNES & THORNBURG LLP

/ Christine H. McCarthy /

Christine H. McCarthy
Reg. No. 41,844
Tel. No. (202) 371-6371

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